SEQUENCE LISTING

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BANDARU, Rajasekhar

<120> 69087, 15821, and 15418 Methods and Compositions of Human Proteins and Uses thereof

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Phe Leu Ala Ser Pro Phe Tyr Asp Arg Phe Leu Gln Trp Lys Leu Phe
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Glu Lys Gln Pro Ile Ser Asp Lys Tyr Phe Tyr Glu Phe Arg Thr Leu
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<210> 22
<211> 564
<212> PRT
<213> Homo sapiens

<400> 22
Met Ser Ala Ala Gln Val Ser Ser Ser Arg Arg Gln Ser Cys Tyr Leu
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Cys Asp Leu Pro Arg Met Pro Trp Ala Met Ile Trp Asp Phe Ser Glu
20 25 30

Pro Val Cys Arg Gly Cys Val Asn Tyr Glu Gly Ala Asp Arg Ile Glu
35 40 45

Phe Val Ile Glu Thr Ala Arg Gln Leu Lys Arg Ala His Gly Cys Phe
50 55 60

Pro Glu Gly Arg Ser Pro Pro Gly Ala Ala Ala Ser Ala Ala Ala Lys
65 70 75 80

Pro Pro Pro Leu Ser Ala Lys Asp Ile Leu Leu Gln Gln Gln Gln Gln
85 90 95

Leu Gly His Gly Gly Pro Glu Ala Ala Pro Arg Ala Pro Gln Ala Leu

100 105 110

Glu Arg Tyr Pro Leu Ala Ala Ala Ala Glu Arg Pro Pro Arg Leu Gly
115 120 125

Ser Asp Phe Gly Ser Ser Arg Pro Ala Ala Ser Leu Ala Gln Pro Pro
130 135 140

Thr Pro Gln Pro Pro Pro Val Asn Gly Ile Leu Val Pro Asn Gly Phe
145 150 155 160

Ser Lys Leu Glu Glu Pro Pro Glu Leu Asn Arg Gln Ser Pro Asn Pro
165 170 175

Arg Arg Gly His Ala Val Pro Pro Thr Leu Val Pro Leu Met Asn Gly
180 185 190

Ser Ala Thr Pro Ala Ala Ala Ser Leu Gly Ser Ala Gln Pro Thr Asp
195 200 205

Leu Gly Ala His Lys Arg Pro Ala Ser Val Ser Ser Ser Ala Ala Val
210 215 220

Glu His Glu Gln Arg Glu Ala Ala Ala Lys Glu Lys Gln Pro Pro Pro
225 230 235 240

Pro Ala His Arg Gly Pro Ala Asp Ser Leu Ser Thr Ala Ala Gly Ala
245 250 255

Ala Glu Leu Ser Ala Glu Gly Ala Gly Lys Ser Arg Gly Ser Gly Glu
260 265 270

Gln Asp Trp Val Asn Arg Pro Lys Thr Val Arg Asp Thr Leu Leu Ala
275 280 285

Leu His Gln His Gly His Ser Gly Pro Phe Glu Ser Lys Phe Lys Lys
290 295 300

Glu Pro Ala Leu Thr Ala Gly Arg Leu Leu Gly Phe Glu Ala Asn Gly
305 310 315 320

Ala Asn Gly Ser Lys Ala Val Ala Arg Thr Ala Arg Lys Arg Lys Pro
325 330 335

Ser Pro Glu Pro Glu Gly Glu Val Gly Pro Pro Lys Ile Asn Gly Glu
340 345 350

Ala Gln Pro Trp Leu Ser Thr Ser Thr Glu Gly Leu Lys Ile Pro Met

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        355                 360                 365

Thr Pro Thr Ser Ser Phe Val Ser Pro Pro Pro Pro Thr Ala Ser Pro
    370                 375                 380

His Ser Asn Arg Thr Thr Pro Pro Glu Ala Ala Gln Asn Gly Gln Ser
385                 390                 395                 400

Pro Met Ala Ala Leu Ile Leu Val Ala Asp Asn Ala Gly Gly Ser His
                405                 410                 415

Ala Ser Lys Asp Ala Asn Gln Val His Ser Thr Thr Arg Arg Asn Ser
            420                 425                 430

Asn Ser Pro Pro Ser Pro Ser Ser Met Asn Gln Arg Arg Leu Gly Pro
        435                 440                 445

Arg Glu Val Gly Gly Gln Gly Ala Gly Asn Thr Gly Gly Leu Glu Pro
    450                 455                 460

Val His Pro Ala Ser Leu Pro Asp Ser Ser Leu Ala Thr Ser Ala Pro
465                 470                 475                 480

Leu Cys Cys Thr Leu Cys His Glu Arg Leu Glu Asp Thr His Phe Val
                485                 490                 495

Gln Cys Pro Ser Val Pro Ser His Lys Phe Cys Phe Pro Cys Ser Arg
            500                 505                 510

Gln Ser Ile Lys Gln Gln Gly Ala Ser Gly Glu Val Tyr Cys Pro Ser
        515                 520                 525

Gly Glu Lys Cys Pro Leu Val Gly Ser Asn Val Pro Trp Ala Phe Met
    530                 535                 540

Gln Gly Glu Ile Ala Thr Ile Leu Ala Gly Asp Val Lys Val Lys Lys
545                 550                 555                 560

Glu Arg Asp Ser
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<210> 23
<211> 1692
<212> DNA
<213> Homo sapiens

<400> 23

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<210> 31
<211> 796
<212> PRT
<213> Homo sapiens

<400> 31

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Cys Asp Leu Pro Arg Met Pro Trp Ala Met Ile Trp Asp Phe Ser Glu
             20                  25                  30

Pro Val Cys Arg Gly Cys Val Asn Tyr Glu Gly Ala Asp Arg Ile Glu
         35                  40                  45

Phe Val Ile Glu Thr Ala Arg Gln Leu Lys Arg Ala His Gly Cys Phe
     50                  55                  60

Gln Asp Gly Arg Ser Pro Gly Pro Pro Pro Pro Val Gly Val Lys Thr
 65                  70                  75                  80

Val Ala Leu Ser Ala Lys Glu Ala Ala Ala Ala Ala Ala Ala Ala Ala
                 85                  90                  95

Ala Ala Ala Ala Ala Ala Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
            100                 105                 110

Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Leu
        115                 120                 125
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Asn His Val Asp Gly Ser Ser Lys Pro Ala Val Leu Ala Ala Pro Ser
130 135 140

Gly Leu Glu Arg Tyr Gly Leu Ser Ala Ala Ala Ala Ala Ala Ala Ala
145 150 155 160

Ala Ala Ala Ala Val Glu Gln Arg Ser Arg Phe Glu Tyr Pro Pro Pro
165 170 175

Pro Val Ser Leu Gly Ser Ser Ser His Thr Ala Arg Leu Pro Asn Gly
180 185 190

Leu Gly Gly Pro Asn Gly Phe Pro Lys Pro Thr Pro Glu Glu Gly Pro
195 200 205

Pro Glu Leu Asn Arg Gln Ser Pro Asn Ser Ser Ser Ala Ala Ala Ser
210 215 220

Val Ala Ser Arg Arg Gly Thr His Gly Gly Leu Val Thr Gly Leu Pro
225 230 235 240

Asn Pro Gly Gly Gly Gly Gly Pro Gln Leu Thr Val Pro Pro Asn Leu
245 250 255

Leu Pro Gln Thr Leu Leu Asn Gly Pro Ala Ser Ala Ala Val Leu Pro
260 265 270

Pro Pro Pro Pro His Ala Leu Gly Ser Arg Gly Pro Pro Thr Pro Ala
275 280 285

Pro Pro Gly Ala Pro Gly Gly Pro Ala Cys Leu Gly Gly Thr Pro Gly
290 295 300

Val Ser Ala Thr Ser Ser Ser Ala Ser Ser Ser Thr Ser Ser Ser Val
305 310 315 320

Ala Glu Val Gly Val Gly Ala Gly Gly Lys Arg Pro Gly Ser Val Ser
325 330 335

Ser Thr Asp Gln Glu Arg Glu Leu Lys Glu Lys Gln Arg Asn Ala Glu
340 345 350

Ala Leu Ala Glu Leu Ser Glu Ser Leu Arg Asn Arg Ala Glu Glu Trp
355 360 365

Ala Ser Lys Pro Lys Met Val Arg Asp Thr Leu Leu Thr Leu Ala Gly
370 375 380

Cys Thr Pro Tyr Glu Val Arg Phe Lys Lys Asp His Ser Leu Leu Gly
385 390 395 400

Arg Val Phe Ala Phe Asp Ala Val Ser Lys Pro Gly Met Asp Tyr Glu
405 410 415

Leu Lys Leu Phe Ile Glu Tyr Pro Thr Gly Ser Gly Asn Val Tyr Ser
420 425 430

Ser Ala Ser Gly Val Ala Lys Gln Met Tyr Gln Asp Cys Met Lys Asp
435 440 445

Phe Gly Arg Gly Leu Ser Ser Gly Phe Lys Tyr Leu Glu Tyr Glu Lys
450 455 460

Lys His Gly Ser Gly Asp Trp Arg Leu Leu Gly Asp Leu Leu Pro Glu
465 470 475 480

Ala Val Arg Phe Phe Lys Glu Gly Val Pro Gly Ala Asp Met Leu Pro
485 490 495

Gln Pro Tyr Leu Asp Ala Ser Cys Pro Met Leu Pro Thr Ala Leu Val
500 505 510

Ser Leu Ser Arg Ala Pro Ser Ala Pro Pro Gly Thr Gly Ala Leu Pro
515 520 525

Pro Ala Ala Pro Ser Gly Arg Gly Ala Ala Ala Ser Leu Arg Lys Arg
530 535 540

Lys Ala Ser Pro Glu Pro Pro Asp Ser Ala Glu Gly Ala Leu Lys Leu
545 550 555 560

Gly Glu Glu Gln Gln Arg Gln Gln Trp Met Ala Asn Gln Ser Glu Ala
565 570 575

Leu Lys Leu Thr Met Ser Ala Gly Gly Phe Ala Ala Pro Gly His Ala
580 585 590

Ala Gly Gly Pro Pro Pro Pro Pro Pro Pro Leu Gly Pro His Ser Asn
595 600 605

Arg Thr Thr Pro Pro Glu Ser Ala Pro Gln Asn Gly Pro Ser Pro Met
610 615 620

Ala Ala Leu Met Ser Val Ala Asp Thr Leu Gly Thr Ala His Ser Pro
625 630 635 640

Lys Asp Gly Ser Ser Val His Ser Thr Thr Ala Ser Ala Arg Arg Asn
645 650 655

Ser Ser Ser Pro Val Ser Pro Ala Ser Val Pro Gly Gln Arg Arg Leu
660 665 670

Ala Ser Arg Asn Gly Asp Leu Asn Leu Gln Val Ala Pro Pro Pro Pro
675 680 685

Ser Ala His Pro Gly Met Asp Gln Val His Pro Gln Asn Ile Pro Asp
690 695 700

Ser Pro Met Ala Asn Ser Gly Pro Leu Cys Cys Thr Ile Cys His Glu
705 710 715 720

Arg Leu Glu Asp Thr His Phe Val Gln Cys Pro Ser Val Pro Ser His
725 730 735

Lys Phe Cys Phe Pro Cys Ser Arg Glu Ser Ile Lys Ala Gln Gly Ala
740 745 750

Thr Gly Glu Val Tyr Cys Pro Ser Gly Glu Lys Cys Pro Leu Val Gly
755 760 765

Ser Asn Val Pro Trp Ala Phe Met Gln Gly Glu Ile Ala Thr Ile Leu
770 775 780

Ala Gly Asp Val Lys Val Lys Lys Glu Arg Asp Pro
785 790 795

<210> 32
<211> 723
<212> PRT
<213> Homo sapiens

<400> 32
Ser His Arg Ile Arg Asp Arg Asp Ser Ala Pro Ala Glu Ala Gly Ala
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Arg Leu Leu Pro Gly Arg Pro Leu Pro Arg Ala Ala Ala Ala Ala Gln
20 25 30

Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln Gln
35 40 45

Gln Gln Gln Gln Gln Gln Leu Asn His Val Asp Gly Ser Ser Lys Pro
50 55 60

Ala Val Leu Ala Ala Pro Ser Gly Leu Glu Arg Tyr Gly Leu Ser Ala
65 70 75 80

Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Ala Val Glu Gln Arg Ser
85 90 95

Arg Phe Glu Tyr Pro Pro Pro Pro Val Ser Leu Gly Ser Ser Ser His
100 105 110

Thr Ala Arg Leu Pro Asn Gly Leu Gly Gly Pro Asn Gly Phe Pro Lys
115 120 125

Pro Thr Pro Glu Glu Gly Pro Pro Glu Leu Asn Arg Gln Ser Pro Asn
130 135 140

Ser Ser Ser Ala Ala Ala Ser Val Ala Ser Arg Arg Gly Thr His Gly
145 150 155 160

Gly Leu Val Thr Gly Leu Pro Asn Pro Gly Gly Gly Gly Gly Pro Gln
165 170 175

Leu Thr Val Pro Pro Asn Leu Leu Pro Gln Thr Leu Leu Asn Gly Pro
180 185 190

Ala Ser Ala Ala Val Leu Pro Pro Pro Pro Pro His Ala Leu Gly Ser
195 200 205

Arg Gly Pro Pro Thr Pro Ala Pro Pro Gly Ala Pro Gly Gly Pro Ala
210 215 220

Cys Leu Gly Gly Thr Pro Gly Val Ser Ala Thr Ser Ser Ser Ala Ser
225 230 235 240

Ser Ser Thr Ser Ser Ser Val Ala Glu Val Gly Val Gly Ala Gly Gly
245 250 255

Lys Arg Pro Gly Ser Val Ser Ser Thr Asp Gln Glu Arg Glu Leu Lys
260 265 270

Glu Lys Gln Arg Asn Ala Glu Ala Leu Ala Glu Leu Ser Glu Ser Leu
275 280 285

Arg Asn Arg Ala Glu Glu Trp Ala Ser Lys Pro Lys Met Val Arg Asp
290 295 300

Thr Leu Leu Thr Leu Ala Gly Cys Thr Pro Tyr Glu Val Arg Phe Lys
305 310 315 320

Lys Asp His Ser Leu Leu Gly Arg Val Phe Ala Phe Asp Ala Val Ser
325 330 335

Lys Pro Gly Met Asp Tyr Glu Leu Lys Leu Phe Ile Glu Tyr Pro Thr
340 345 350

Gly Ser Gly Asn Val Tyr Ser Ser Ala Ser Gly Val Ala Lys Gln Met
355 360 365

Tyr Gln Asp Cys Met Lys Asp Phe Gly Arg Gly Leu Ser Ser Gly Phe
370 375 380

Lys Tyr Leu Glu Tyr Glu Lys Lys His Gly Ser Gly Asp Trp Arg Leu
385 390 395 400

Leu Gly Asp Leu Leu Pro Glu Ala Val Arg Phe Phe Lys Glu Gly Val
405 410 415

Pro Gly Ala Asp Met Leu Pro Gln Pro Tyr Leu Asp Ala Ser Cys Pro
420 425 430

Met Leu Pro Thr Ala Leu Val Ser Leu Ser Arg Ala Pro Ser Ala Pro
435 440 445

Pro Gly Thr Gly Ala Leu Pro Pro Ala Ala Pro Ser Gly Arg Gly Ala
450 455 460

Ala Ala Ser Leu Arg Lys Arg Lys Ala Ser Pro Glu Pro Pro Asp Ser
465 470 475 480

Ala Glu Gly Ala Leu Lys Leu Gly Glu Glu Gln Gln Arg Gln Gln Trp
485 490 495

Met Ala Asn Gln Ser Glu Ala Leu Lys Leu Thr Met Ser Ala Gly Gly
500 505 510

Phe Ala Ala Pro Gly His Ala Ala Gly Gly Pro Pro Pro Pro Pro Pro
515 520 525

Pro Leu Gly Pro His Ser Asn Arg Thr Thr Pro Pro Glu Ser Ala Pro
530 535 540

Gln Asn Gly Pro Ser Pro Met Ala Ala Leu Met Ser Val Ala Asp Thr
545 550 555 560

Leu Gly Thr Ala His Ser Pro Lys Asp Gly Ser Ser Val His Ser Thr
565 570 575

Thr Ala Ser Ala Arg Arg Asn Ser Ser Ser Pro Val Ser Pro Ala Ser
580 585 590

Val Pro Gly Gln Arg Arg Leu Ala Ser Arg Asn Gly Asp Leu Asn Leu
595 600 605

Gln Val Ala Pro Pro Pro Pro Ser Ala His Pro Gly Met Asp Gln Val
610 615 620

His Pro Gln Asn Ile Pro Asp Ser Pro Met Ala Asn Ser Gly Pro Leu
625 630 635 640

Cys Cys Thr Ile Cys His Glu Arg Leu Glu Asp Thr His Phe Val Gln
645 650 655

Cys Pro Ser Val Pro Ser His Lys Phe Cys Phe Pro Cys Ser Arg Glu
660 665 670

Ser Ile Lys Ala Gln Gly Ala Thr Gly Glu Val Tyr Cys Pro Ser Gly
675 680 685

Glu Lys Cys Pro Leu Val Gly Ser Asn Val Pro Trp Ala Phe Met Gln
690 695 700

Gly Glu Ile Ala Thr Ile Leu Ala Gly Asp Val Lys Val Lys Lys Glu
705 710 715 720

Arg Asp Pro

<210> 33
<211> 172
<212> PRT
<213> Homo sapiens

<400> 33
Val Ala Arg Thr Ala Arg Lys Arg Lys Pro Ser Pro Glu Pro Glu Gly
1 5 10 15

Glu Val Gly Pro Pro Lys Ile Asn Gly Glu Ala Gln Pro Trp Xaa Ser
20 25 30

Thr Ser Thr Glu Gly Xaa Lys Ile Pro Met Thr Pro Thr Ser Ser Phe
35 40 45

Val Ser Pro Pro Pro Pro Thr Ala Ser Pro His Ser Asn Arg Thr Thr

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     50                  55                  60

Pro Pro Glu Ala Ala Gln Asn Gly Gln Ser Pro Met Ala Ala Leu Ile
 65                  70                  75                  80

Leu Val Ala Asp Asn Ala Gly Gly Ser His Ala Ser Lys Asp Ala Asn
                 85                  90                  95

Gln Val His Ser Thr Thr Arg Arg Asn Ser Asn Ser Pro Pro Ser Pro
            100                 105                 110

Ser Ser Met Asn Gln Arg Arg Leu Gly Pro Arg Glu Val Gly Gly Gln
        115                 120                 125

Gly Ala Gly Asn Thr Gly Gly Leu Glu Pro Val His Pro Ala Ser Leu
    130                 135                 140

Pro Asp Phe Ser Leu Ala Thr Ser Ala Pro Leu Cys Cys Thr Leu Cys
145                 150                 155                 160

His Glu Arg Leu Glu Asp Asn His Phe Val Gln Cys
                165                 170
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<210> 34
<211> 197
<212> PRT
<213> Homo sapiens

<400> 34

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Met Thr Pro Thr Ser Ser Phe Val Ser Pro Pro Pro Pro Thr Ala Ser
  1               5                  10                  15

Pro His Ser Asn Arg Thr Thr Pro Pro Glu Ala Ala Gln Asn Gly Gln
             20                  25                  30

Ser Pro Met Ala Ala Leu Ile Leu Val Ala Asp Asn Ala Gly Gly Ser
         35                  40                  45

His Ala Ser Lys Asp Ala Asn Gln Val His Ser Thr Thr Arg Arg Asn
     50                  55                  60

Ser Asn Ser Pro Pro Ser Pro Ser Ser Met Asn Gln Arg Arg Leu Gly
 65                  70                  75                  80

Pro Arg Glu Val Gly Gly Gln Gly Ala Gly Asn Thr Gly Gly Leu Glu
                 85                  90                  95
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Pro Val His Pro Ala Ser Leu Pro Asp Ser Ser Leu Ala Thr Ser Ala
            100   105   110

Pro Leu Cys Cys Thr Leu Cys His Glu Arg Leu Glu Asp Thr His Phe
        115   120   125

Val Gln Cys Pro Ser Val Pro Ser His Lys Phe Cys Phe Pro Cys Ser
    130   135   140

Arg Gln Ser Ile Lys Gln Gln Gly Ala Ser Gly Glu Val Tyr Cys Pro
145   150   155   160

Ser Gly Glu Lys Cys Pro Leu Val Gly Ser Asn Val Pro Trp Ala Phe
                165   170   175

Met Gln Gly Glu Ile Ala Thr Ile Leu Ala Gly Asp Val Lys Val Lys
            180   185   190

Lys Glu Arg Asp Ser
        195

<210> 35
<211> 197
<212> PRT
<213> Homo sapiens

<400> 35
Met Thr Pro Thr Ser Ser Phe Val Ser Pro Pro Pro Pro Thr Ala Ser
  1   5   10   15

Pro His Ser Asn Arg Thr Thr Pro Pro Glu Ala Ala Gln Asn Gly Gln
             20   25   30

Ser Pro Met Ala Ala Leu Ile Leu Val Ala Asp Asn Ala Gly Gly Ser
         35   40   45

His Ala Ser Lys Asp Ala Asn Gln Val His Ser Thr Thr Arg Arg Asn
     50   55   60

Ser Asn Ser Pro Pro Ser Pro Ser Ser Met Asn Gln Arg Arg Leu Gly
 65   70   75   80

Pro Arg Glu Val Gly Gly Gln Gly Ala Gly Asn Thr Gly Gly Leu Glu
                 85   90   95

Pro Val His Pro Ala Ser Leu Pro Asp Ser Ser Leu Ala Thr Ser Ala
            100   105   110

Pro Leu Cys Cys Thr Leu Cys His Glu Arg Leu Glu Asp Thr His Phe
115 120 125

Val Gln Cys Pro Ser Val Pro Ser His Lys Phe Cys Phe Pro Cys Ser
130 135 140

Arg Gln Ser Ile Lys Gln Gln Gly Ala Ser Gly Glu Val Tyr Cys Pro
145 150 155 160

Ser Gly Glu Lys Cys Pro Leu Val Gly Ser Asn Val Pro Trp Ala Phe
165 170 175

Met Gln Gly Glu Ile Ala Thr Ile Leu Ala Gly Asp Val Lys Val Lys
180 185 190

Lys Glu Arg Asp Ser
195

<210> 36
<211> 216
<212> PRT
<213> Homo sapiens

<400> 36
Met Ser Ala Gly Gly Phe Ala Ala Pro Gly His Ala Ala Gly Gly Pro
1 5 10 15

Pro Pro Pro Pro Pro Pro Leu Gly Pro His Ser Asn Arg Thr Thr Pro
20 25 30

Pro Glu Ser Ala Pro Gln Asn Gly Pro Ser Pro Met Ala Ala Leu Met
35 40 45

Ser Val Ala Asp Thr Leu Gly Thr Ala His Ser Pro Lys Asp Gly Ser
50 55 60

Ser Val His Ser Thr Thr Ala Ser Ala Arg Arg Asn Ser Ser Ser Pro
65 70 75 80

Val Ser Pro Ala Ser Val Pro Gly Gln Arg Arg Leu Ala Ser Arg Asn
85 90 95

Gly Asp Leu Asn Leu Gln Val Ala Pro Pro Pro Pro Ser Ala His Pro
100 105 110

Gly Met Asp Gln Val His Pro Gln Asn Ile Pro Asp Ser Pro Met Ala

115 120 125

Asn Ser Gly Pro Leu Cys Cys Thr Ile Cys His Glu Arg Leu Glu Asp
130 135 140

Thr His Phe Val Gln Cys Pro Ser Val Pro Ser His Lys Phe Cys Phe
145 150 155 160

Pro Cys Ser Arg Glu Ser Ile Lys Ala Gln Gly Ala Thr Gly Glu Val
165 170 175

Tyr Cys Pro Ser Gly Glu Lys Cys Pro Leu Val Gly Ser Asn Val Pro
180 185 190

Trp Ala Phe Met Gln Gly Glu Ile Ala Thr Ile Leu Ala Gly Asp Val
195 200 205

Lys Val Lys Lys Glu Arg Asp Pro
210 215

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<210> 41
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<400> 41
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caacggcttt tgggaacagc tcatcaatta cgaattcaag ctgtttaata acaacaccgt 660
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gatgatatca atgtaagcca tcccggccag cccctgacat ctgccatcga tcttgcacca 780
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<212> PRT
<213> Homo sapiens

<400> 42
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Pro Ser Ile Tyr Ser Phe Ser Gln Ile Thr Arg Ser Leu Phe Leu Ser
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Asn Gly Val Ala Ala Asn Asp Lys Leu Leu Leu Ser Ser Asn Arg Ile
35 40 45

Thr Ala Ile Val Asn Ala Ser Val Glu Val Val Asn Val Phe Phe Glu
50 55 60

Gly Ile Gln Tyr Ile Lys Val Pro Val Thr Asp Ala Arg Asp Ser Arg
65 70 75 80

Leu Tyr Asp Phe Phe Asp Pro Ile Ala Asp Leu Ile His Thr Ile Asp
85 90 95

Met Arg Gln Gly Arg Thr Leu Leu His Cys Met Ala Gly Val Ser Arg
100 105 110

Ser Ala Ser Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ser Met Ser
115 120 125

Leu Leu Asp Ala His Thr Trp Thr Lys Ser Arg Arg Pro Ile Ile Arg

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Pro Asn Asn Gly Phe Trp Glu Gln Leu Ile Asn Tyr Glu Phe Lys Leu
145                 150                 155                 160

Phe Asn Asn Asn Thr Val Arg Met Ile Asn Ser Pro Val Gly Asn Ile
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Pro Asp Ile Tyr Glu Lys Asp Leu Arg Thr Met Ile Ser Met
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Pro Ser Ile Tyr Ser Phe Ser Gln Ile Thr Arg Ser Leu Phe Leu Ser
             20                  25                  30

Asn Gly Val Ala Ala Asn Asp Lys Leu Leu Leu Ser Ser Asn Arg Ile
         35                  40                  45

Thr Ala Ile Val Asn Ala Ser Val Glu Val Val Asn Val Phe Phe Glu
     50                  55                  60
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Gly Ile Gln Tyr Ile Lys Val Pro Val Thr Asp Ala Arg Asp Ser Arg
65 70 75 80

Leu Tyr Asp Phe Phe Asp Pro Ile Ala Asp Leu Ile His Thr Ile Asp
85 90 95

Met Arg Gln Gly Arg Thr Leu Leu His Cys Met Ala Gly Val Ser Arg
100 105 110

Ser Ala Ser Leu Cys Leu Ala Tyr Leu Met Lys Tyr His Ser Met Ser
115 120 125

Leu Leu Asp Ala His Thr Trp Thr Lys Ser Arg Arg Pro Ile Ile Arg
130 135 140

Pro Asn Asn Gly Phe Trp Glu Gln Leu Ile Asn Tyr Glu Phe Lys Leu
145 150 155 160

Phe Asn Asn Asn Thr Val Arg Met Ile Asn Ser Pro Val Gly Asn Ile
165 170 175

Pro Asp Ile Tyr Glu Lys Asp Leu Arg Met Met Ile Ser Met
180 185 190